

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE CONSTRUCTION OF A NEW TRAFFIC SIGNAL WITH INTERCONNECT AT THE INTERSECTION OF MD 117 (W. DIAMOND AVENUE) AND I-270 PARK-N-RIDE (EXIT 10-NB OFF RAMP) IN MONTGOMERY COUNTY. THE SIGNAL WILL BE OPERATIONAL DURING MAINTENANCE OF TRAFFIC PHASES. PERMANENT SIGNAL EQUIPMENT WILL BE USED TO DO THE TRAFFIC CONTROL DURING THE TEMPORARY PHASES. MD 117 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION:

THIS INTERSECTION WILL OPERATE IN NEMA FOUR (4) PHASE, FULLY-ACTUATED MODE.

CONTROLLER REQUIRMENTS:

A FULL-TRAFFIC-ACTUATED EIGHT-PHASE CONTROLLER HOUSED IN A NEMA SIZE 6 BASE MOUNTED CABINET. THE EASTBOUND DIRECTION WILL HAVE A PROTECTED-PERMISSIVE LEFT-TURN PHASE BOTH DIRECTION WILL HAVE PEDESTRIAN PHASES. PEDESTRIAN PUSHBUTTONS ARE PROVIDED FOR CROSSING MD 117.

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC WILL BE HANDELED BY THE CONTRACTOR USING RELEVANT PORTION OF THE CONTRACT DOCUMENT.

PROJECT CONTACTS

1) THE FOLLOWING ARE SHA DISTRICT 3 CONTACT PERSONS:

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
DIVISION (410) 787-7630

MR. CHARLES WATKINS
DISTRICT ENGINEER
(301) 513-7311

MR. MAJID SHAKIB
ASST. DISTRICT ENGINEER-TRAFFIC
(301) 513-7358

MR. RALPH MEDLEY
ASST. DISTRICT ENGINEER-MAINTENANCE
(301) 513-7304

MR. AUGUSTINE REBISH
DISTRICT ENGINEER-UTILITY
(301) 513-7350

2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CABLES INTO THE BASE OF THE CONTROLLER CABINET AND PROPERLY TAG / LABEL EACH CABLE. MONTGOMERY COUNTY DPWT FORCES SHALL BE RESPONSIBLE FOR INTERNAL WIRING.

EQUIPMENT LIST A

A. EQUIPMENT FURNISHED AND/OR INSTALLED BY THE ADMINISTRATION

CODE	QTY.	UNITS	Specification SECTION	DESCRIPTION
971017	1	EA	816	Eight-phase (fully actuated) controller and cabinet- base mount
900000	123	SF	813	Sheet aluminum signs consisting of :
	1	EA	XXX	R3-5L (30"x 36")
	3	EA	XXX	R3-5R (30"x 36")
	1	EA	XXX	D3-2 (Var. x 16")
	1	EA	XXX	M3-4, M1-5, M6-1 (30"x 51")
	1	EA	XXX	M3-2, M1-5, M6-1 (48"x 75")
	1	EA	XXX	R10-12 (30"x 36")
	1	EA	XXX	R3-4 (30"x 30")
	2	EA	XXX	W3-3 (48"x 48")

EQUIPMENT LIST B

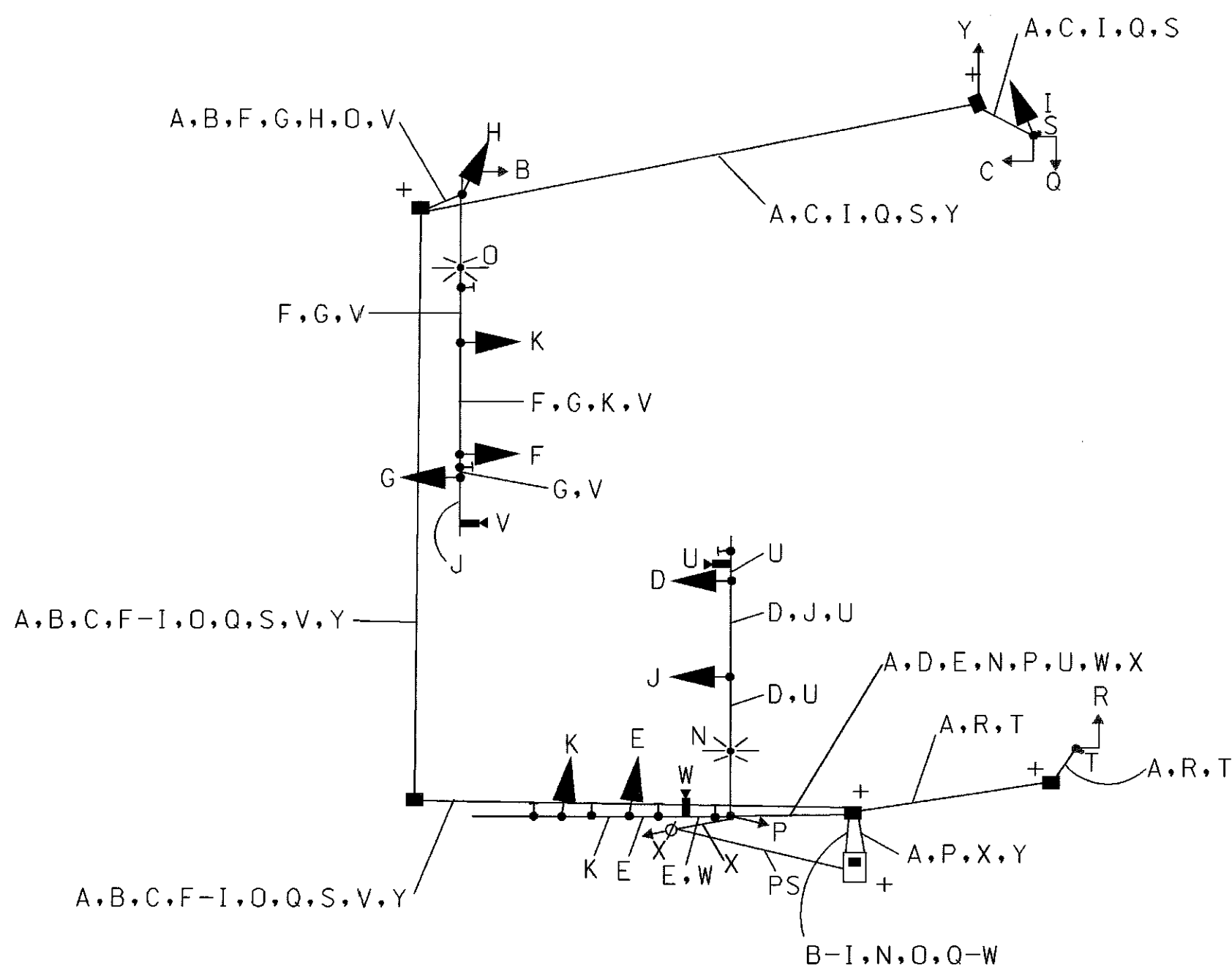
B. EQUIPMENT FURNISHED AND/OR INSTALLED BY CONTRACTOR.

CATEGORY CODE	QTY.	UNITS	SECTION	DESCRIPTION
203030	3.0	CY	205	Test pit excavation
585416	150	LF	555	24 in. white reflective thermoplastic pavement marking - any width.
801004	11	CY	801	Furnish and install concrete for signal foundation.
837001	5	EA	804	Furnish and install ground rod - 3/4 in. diameter x 10 ft.
870163	100	LF	805	Furnish and install 3 in. schedule 80 rigid PVC conduit - trenched.
831010	2	EA	806	Furnish and install 250 watt high pressure sodium lamp and luminaire with photocell.
807205	1	EA	807	Furnish and install control and distribution equipment.
861107	450	LF	810	Furnish and install electrical cable - 5 conductor (No. 14 AWG)
861108	1200	LF	810	Furnish and install electrical cable - 7 conductor (No. 14 AWG)
800000	330	LF	XXX	Furnish and install 2 - conductor - tray cable (No. 12 AWG)
811001	5	EA	811	Furnish and install electrical handhole.
860272	35	EA	814	Install 12 inch vehicular traffic signal head section.
871202	1	EA	816	Install controller & cabinet base mount.
866104	2	EA	818	Furnish and install 20 ft. lighting arm on signal structure.
802501	500	LF	810	Furnish and install No. 6 AWG stranded bare copper ground wire.
861106	1600	LF	810	Furnish and install electrical cable - 3 conductor (No. 14 AWG)
818051	1	EA	818	Furnish and install 27 ft. steel pole with twin 50 ft. / 70 ft. mast arms.
818052	1	EA	818	Furnish and install 27 ft. steel pole with single 70 ft. mast arm.
585414	400	LF	555	12 in. white reflective thermoplastic pavement marking.
805155	220	LF	805	Furnish and install 4 in. schedule 80 conduit - slotted.
870166	100	LF	805	Furnish and install 4 in. schedule 80 conduit - trenched
868003	2	EA	818	Furnish and install 10 ft. breakaway pedestal.
800000	3	EA	XXX	Furnish and install video detection system.
822003	500	LF	XXX	Furnish and install self supporting communication cable for interconnect (overhead).
813015	91	SF	XXX	Install overhead sign.
813014	32	SF	XXX	Install ground mounted sign.
861105	950	LF	810	Furnish and install 2 conductor electrical cable (No. 14 AWG)
865001	2	EA	817	Furnish and install pushbutton and sign.
860282	6	EA	814	Furnish and install 12 inch pedestrian signal head section-pedestal mount.
860278	2	EA	814	Furnish and install 12 inch pedestrian signal head section-pole mount.
860205	9	EA	XXX	Relocate existing signal head.
801106	64	LF	812	Furnish and install wood sign supports 4"x 6" .

EQUIPMENT LIST C

ALL REMOVED SIGNAL MATERIALS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

WIRING DIAGRAM



- N,O - 2 CONDUCTOR ELECTRICAL CABLE TYPE T/C (NO. 12 AWG)
- B,C,- 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- J-K - 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- D-I - 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- A - STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
- P - 50-PAIR INTERCONNECT CABLE TO MD 117 @ MUDDY BRANCH ROAD
- X - EXISTING 50 PAIR INTERCONNECT CABLE TO MD 117 @ BUREAU DRIVE
- Y - 12-PAIR INTERCONNECT CABLE TO THE OFF-RAMP SIGNAL AT THE PARK AND RIDE LOT
- S,T - 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- U,V,W - VIDEO DETECTOR CABLE
- + - GROUND ROD
- PS - POWER SERVICE

NOTE: SEE SIGNAL INTERCONNECT PLAN FOR INTERCONNECT DETAILS.

PHASE CHART (TEMPORARY PHASES 1 AND 2)

	1*	2*	3	4	5	6	7	8	9	10	11	12	13
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	DARK	DARK	DARK	DARK
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	DARK	DARK	DARK	DARK
PHASE 7	R	R	R	R	R	G	G	G	G	DARK	DARK	DARK	DARK
PHASE 7 CHANGE	R	R	R	R	R	Y	Y	Y	Y	DARK	DARK	DARK	DARK
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

* LEFT-TURN ARROWS (YELLOW AND GREEN) SHALL REMAIN DARK AND BAGGED DURING TEMPORARY PHASES.

PHASE CHART (ULTIMATE)

	1	2	3	4	5	6	7	8	9	10	11	12	13
PHASE 1 & 6	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW
1 & 6 CHANGE	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	W	W	DW	DW
PED. CLEAR	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW
PHASE 7	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW
PHASE 7 CHANGE	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 7 ALT.	R	R	R	R	R	G	G	G	G	DW	DW	W	W
PED. CLEAR	R	R	R	R	R	G	G	G	G	DW	DW	FL/DW	FL/DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

R = RED
Y = YELLOW
G = GREEN
FL = FLASHING
DW = DON'T WALK
W = WALK

DCI
CONSULTING ENGINEERS
COLUMBIA, MARYLAND

REVISIONS	APPROVALS
	TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
	ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET

I- 270 (EXIT 10-NB) OFF-RAMP
AT MD 117

DRAWN BY: A.FORNARO	F.A.P. NO. M07915171	SEE TITLE SHEET	TS NO. 4111
CHECKED BY: TK/ ME	S.H.A. NO. MONTGOMERY		
SCALE: NONE	COUNTY: MONTGOMERY		
DATE: JUNE 11, 2001	LOG MILE: 15011711.81		
			SHEET NO. 147 OF 191